

Implications of Implementing the Leapfrog Group's Patient Safety Standards in Iowa Hospitals

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BACKGROUND / RATIONALE:

Two recent Institute of Medicine (IOM) reports, *To Err is Human* and *Crossing the Quality Chasm*, raise very serious and troubling questions related to the safety and quality of health care services provided to the American public. Together these reports call for a fundamental redesign in the systems used to deliver patient care services, particularly in acute care hospitals. A core focus of these redesign efforts is on the reduction of preventable errors and adverse events, as well as the use of industry best practices to enhance both patient safety and quality of care.

OBJECTIVE (S):

The purpose of this study is to evaluate the potential effect of third-party payers using their economic purchasing power to stimulate redesign of acute care hospitals' safety and quality.

METHODS:

The study will be divided into three sub-studies, each focused on one of the Leapfrog Group's recommended strategies and their feasibility and potential impact in Iowa. Sub-Study 1 will focus on the Evaluation of the Feasibility and Costs of Implementing Computer-Based Physician Order Entry Systems (CPOE) in Iowa Hospitals. Sub-Study 2 will focus on the Evaluation of the Impact of an Evidence-Based Hospital Referral (EHR) Policy. Sub-Study 3 will focus on the ICU Physician Staffing (IPS)

FINDINGS / RESULTS:

The findings of Sub-study 1 indicate that CPOE implementation would dramatically increase operating costs for rural and critical access hospitals in the absence of substantial costs savings associated with improved efficiency or improved patient safety. For urban and rural referral hospitals the cost impact is less dramatic but still substantial. However, relatively modest benefits in the form of patient care cost savings or revenue enhancement would be sufficient offset CPOE costs for these larger hospitals. Implementation of CPOE in rural or critical access hospitals may on net increase operating costs. Adoption of CPOE may be financially infeasible for these small hospitals in the

absence of increases in hospital payments or ongoing subsidies from third parties. The findings of Sub-study 2 indicate that relatively few hospitals perform these procedures in Iowa. Hospitals performing the procedures at a volume above the threshold standard set by the Leapfrog Group tend to be larger, receive more transfers from other hospitals for these procedures, and perform fewer of these procedures on an emergency basis. In Iowa, hospitals that met the volume standard did not differ from hospitals that did not meet the volume standard in risk-adjusted mortality rates. The impact of evidence-based referral would be substantial in terms of travel time for some procedures (i.e., coronary artery bypass graft, pancreatic resection, and esophageal cancer surgery) and produce considerable lost revenue for some hospitals. Evidence-based referral would be associated with substantial burden for some patients and hospitals in Iowa. This negative impact does not appear to be offset by improvement in in-hospital mortality rates. These initial findings suggest that there are a number of issues that need to be considered, especially in a rural state, before evidence-based referral is embraced as a means to enhance patient outcomes. The findings of Sub-study 3 indicate that while the majority of Iowa's acute care hospitals have staffed ICU beds, most have few ICU beds and patients. Approximately 1% of Iowa physicians have critical care medicine or surgery training. The smaller Critical Access and Rural hospitals ICUs have proportionately more Medical DRG patients than the larger Rural Referral and Urban hospitals. Average lengths of stay and mortality rates of ICU patients are lower in the Critical Access and Rural hospitals. These hospitals also have much higher transfer rates of ICU patients to other hospitals. Combined these findings suggests that the smaller rural ICUs are used to stabilize but not definitively treat more complex and ill patients. Financially, only a small number of Iowa ICUs would have sufficient patient volume to financially support full-time intensivists. The potential gain in quality and safety from implementing full-time intensivist staffing on a state-wide basis in a rural state like Iowa appears to be limited, particularly in the smaller and more rural hospital settings.

IMPACT:

The final product will provide a statewide assessment of the implications, feasibility and potential challenges associated with requiring implementation of the three Leapfrog Group standards.

PUBLICATIONS:

Journal Articles

1. Ohsfeldt RL, Ward MM, Schneider JE, Jaana M, Miller TR, Lei Y, Wakefield DS. Implementation of Hospital Computerized Physician Order Entry Systems In a Rural State: Feasibility and Financial Impact. Journal of The American Medical Informatics Association : Jamia 2004; .